PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 8/2AK11/MK/3	**FOR FURTHER ACTION**	See Form PCT/IPEA/416
International application No. PCT/NL2004/000150	International filing date *(day/month/year)* 27.02.2004	Priority date *(day/month/year)* 28.02.2003
International Patent Classification (IPC) or national classification and IPC G01N21/90		
Applicant HEINEKEN TECHNICAL SERVICES B.V.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
   a. ☒ *sent to the applicant and to the International Bureau)* a total of 2 sheets, as follows:
      ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒	Box No. I	Basis of the opinion
☐	Box No. II	Priority
☒	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
☐	Box No. IV	Lack of unity of invention
☒	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
☐	Box No. VI	Certain documents cited
☐	Box No. VII	Certain defects in the international application
☐	Box No. VIII	Certain observations on the international application

Date of submission of the demand	Date of completion of this report
28.09.2004	09.03.2005
Name and mailing address of the international preliminary examining authority: European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Verdoodt, E Telephone No. +31 70 340-3577

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/NL2004/000150

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
   - ☐ international search (under Rules 12.3 and 23.1(b))
   - ☐ publication of the international application (under Rule 12.4)
   - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages	
1-13	as originally filed
Claims, Numbers	
1-9	received on 09.11.2004 with letter of 09.11.2004
Drawings, Sheets	
1/6-6/6	as originally filed

   ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:
   - ☐ the description, pages
   - ☐ the claims, Nos.
   - ☐ the drawings, sheets/figs
   - ☐ the sequence listing *(specify)*:
   - ☐ any table(s) related to sequence listing *(specify)*:

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
   - ☐ the description, pages
   - ☐ the claims, Nos.
   - ☐ the drawings, sheets/figs
   - ☐ the sequence listing *(specify)*:
   - ☐ any table(s) related to sequence listing *(specify)*:

* *If item 4 applies, some or all of these sheets may be marked "superseded."*

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 5

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

☐ the description, claims or drawings *(indicate particular elements below)* or said claims Nos. are so unclear that no meaningful opinion could be formed *(specify)*:

☒ the claims, or said claims Nos. 5 are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos.

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form	☐	has not been furnished
	☐	does not comply with the standard
the computer readable form	☐	has not been furnished
	☐	does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☐ See separate sheet for further details

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-4,6-9
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-4,6-9
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-4,6-9
	No:	Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item III

1. **Claim 5:** The feature of claim 5 concerning the word "rank", is not explicitly referred to in the description. Claim 5 is therefore not supported by the description as required by Article 6 PCT, nor it is clear how this feature has to be interpreted in the context of the claim.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The following documents are referred to in this communication:

D1: EP 0 418 005 A (SHIBUYA KOGYO CO LTD) 20 March 1991 (1991-03-20)

D2: US-A-3 496 369 (MAKINO ISAO ET AL) 17 February 1970 (1970-02-17)

D3: WO 00/77499 A (AKKERMAN JENSEN PETER ;EAGLE VISION SYSTEMS B V (NL); JOORDENS SER) 21 December 2000 (2000-12-21)

INDEPENDENT CLAIM 1

2.1 The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and shows (the references in parentheses applying to this document): Method for inspecting packages (2) for a liquid product (See col.9, lines 28-44), such as drinks, comprising steps for:
- setting a packaging into rotation, irradiating the packaging during the rotation with a radiation of a predetermined wavelength (See col. 5, line 21),
- making at least one series of at least two recordings of at least a part of the content of the packaging during the rotation (See col. 6, lines 9-25), this with an image recording device (33A, 33B) suitable for making recordings at the predetermined wavelength.

2.2 The subject-matter of claim 1 differs from this known D1 in that the packaging is situated in substantially the same rotational position relative to the recording device during successive recordings of the series.

2.3 The subject-matter of claim D1 is therefore new (Article 33(2) PCT).

2.4 The problem to be solved by the present invention may be regarded as, how to improve the detection of solid particles in the liquid within the packagings when comparing successive images, so as to be able to correct for intrinsic characteristics of the bottle (label, scuffing).

2.5 The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:
Although document D1 describes how during the inspection a total of 12 images are obtained from a packaging as it rotates, it does not indicate that the packaging is situated in substantially the same rotational position relative to the recording device during successive recordings of the series, neither do documents D2 and D3.

2.6 Claims 2-4 and 6-8 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

INDEPENDENT CLAIM 9

3.1 The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and shows (the references in parentheses applying to this document):
A system for performing a method for inspecting packages (See Col. 3, line 52 - Col. 4, line 12 and figure 1), the system comprising: a rotator (8), radiating means (21) and image recording means (33A and 33B).

3.2 The subject-matter of claim 9 differs from this known D1 in that orientation determining means are provided.

3.3 The subject-matter of claim D1 is therefore new (Article 33(2) PCT).

3.4 The problem to be solved by the present invention may be regarded as, how to determine the rotational orientation of the packaging with respect to the image recording means.

3.5 The solution to this problem proposed in claim 9 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons: Neither D2 or D3 disclose means for determining the rotational position of the packaging.

FURTHER REMARKS

3.1 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D1 is not mentioned in the description, nor is this documents identified therein.

3.2 The description (page 1, line 28-page 2, line 5 and page 4, lines 1-3) is not in conformity with the independent claims as required by Rule 5.1(a)(iii) PCT.

09-11-2004

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International application PCT/NL2004/000150
Enclosure to letter dated 09-11-2004

CLAIMS

1. Method for inspecting packagings for a liquid product, such as drinks, comprising steps for:

- setting a packaging into rotation,
- irradiating the packaging during the rotation with a radiation of a predetermined wavelength,
- making at least one series of at least two recordings of at least a part of the content of the packaging during the rotation, this with an image recording device suitable for making recordings at the predetermined wavelength, characterized in that
- the packaging is situated in substantially the same rotational position relative to the recording device during successive recordings of the series.

2. Method as claimed in claim 1, wherein successive recordings of the series are made with an intervening time interval of a predetermined duration.

3. Method as claimed in one or more of the foregoing claims, wherein the rotation speed is varied during the period in which the recordings of a series are made.

4. Method as claimed in one or more of the foregoing claims, wherein the rotation direction is varied during the period in which the recordings of a series are made.

5. Method as claimed in one or more of the foregoing claims, wherein a plurality of series of recordings are made wherein recordings of the same rank from different series are made successively.

6. Method as claimed in one or more of the foregoing claims, comprising steps for comparing the image information from the images of a series in order to detect the presence

of undesired particles, such as glass particles, in the packaging.

7. Method as claimed in one or more of the foregoing claims, wherein the image recording device is a camera which is activated to make a recording by a signal supplied from outside the camera.

8. Method as claimed in one or more of the foregoing claims, wherein during performing of the method a packaging is placed in a holder comprising a drive unit, radiating means for generating the radiation, and position-determining means for determining the rotational position of the packaging.

9. System for performing a method as claimed in one or more of the foregoing claims, the system comprising:

- a rotator (3) for rotating a packaging,
- radiating means (II,34,35) for irradiating the packaging during the rotation with radiation of a predetermined wavelenght,
- an image recording device (8,31,32,36,37,38) suitable for making recordings at the predetermined wavelength for making at least one series of at least two recordings of at least a part of the content of the packaging during the rotation, characterized by
- orientation determining means (16) for determining the rotational position of the packaging for making successive recordings of the content of the packaging in substantially the same orientation.